Description of a Modified Laryngectomy.

BY

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REPRINTED FROM

The New York Medical Journal

for June 18, 1887.

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A MODIFIED LARYNGECTOMY.*

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In many larynges removed entire or practically entire for carcinoma or for other disease rendering their retention perilous to the life of the individual, there has not been the slightest evidence of disease found in the thyroid cartilages. It seems barbarous to me, therefore, other things being equal, to remove these structures unnecessarily; the more that dangers from the operation, immediate and remote, are infinitely greater than when the cartilages can be left in their normal situation with the inferior constrictor muscles of the pharynx in position, and many other structures left undisturbed which, in complete laryngectomy, are necessarily injured, disturbed, and left exposed. The operation about to be described removes the entire respiratory portion of the larynx, leaving the greater portion of the protecting thyroid cartilages undisturbed to perform their function as shields. As performed on the dead subject by myself and by Dr. Edward Martin, my chief of clinic in the laryngological department of the Philadelphia Polyclinic,

* Read before the American Laryngological Association at its ninth annual congress.

an exsection of the larynx, such as is shown in the specimen herewith exhibited, can be done within two minutes. The gap left in the body is insignificant in comparison to that following complete laryngectomy, and a firm support is retained for the accommodation of an artificial substitute for the parts removed. The operation will give sufficient access in many cases for removal of implicated portions of œsophagus and pharynx; and in cases of disease limited to the interior of the respiratory tube, or to the soft portions of the larynx, especially in cases not carcinomatous, it should fulfill every indication which has prompted entire laryngectomy, and without exposure to risks as great. It is applicable to the unilateral procedure as well as to the bilateral one.

After I had performed this operation on the cadaver by several methods from above and below, and was desirous of determining which was the most expeditious and the readiest, Dr. Martin kindly performed some twenty or more additional operations.

Instruments required: a cartilage knife; a scalpel, medium size; a pair of strong cutting forceps, with narrow blades; blunt and sharp-pointed scissors; two strong blunt hooks, or retractors; volsellum forceps, artery forceps, bulldogs, dissecting and dressing forceps; tenacula; director, ligatures, sutures, needles.

The following detailed steps in the operation are presented by Dr. Martin and myself as the result of these investigations:

1. Make an incision from the hyoid bone to the lower border of the cricoid cartilage, and exactly in the middle line.

2. Carefully separate the sterno-hyoid muscles.

3. Hold the soft parts aside and insert, from above, one blade of a strong cutting forceps with narrow blades beneath one wing of the thyroid cartilage, one fourth of an inch from the angle of junction with its fellow, and sever

the cartilage vertically its entire length through to the crico-thyroid membrane.

4. Make a similar cut on the opposite side.

5. Seize the freed angular portion of the thyroid cartilage, comprising its entire respiratory contingent, with a volsellum forceps and draw it to either side, the soft parts being separated meanwhile from the inner surfaces of the detached wings of the thyroid cartilages with the handle of the scalpel.

6. Make a transverse cut to sever the cricoid cartilage from the trachea. (At this step, in the living subject a sterilized cotton plug should be inserted into the upper end of the trachea, preliminary tracheotomy having been performed previously.)

NOTE.—If the cricoid cartilage is to be retained, disarticulate the arytenoids, and then sever the soft parts above the cricoid instead of below. This modifies the next step in the procedure accordingly.

7. Lift the cricoid cartilage forward and carefully separate it with the edge of the knife from the inferior cornua of the thyroid, laterally and superiorly, and then from the œsophagus posteriorly.

8. Insert a finger into the pharynx from below and carry its tip over the epiglottis to draw that structure down.

9. Divide the thyro-hyoid membrane and the fibrous tissues still holding.

10. Lift out the exsected respiratory portion of the larynx.

The arteries likely to require ligation will comprise small branches of the superior, middle, and inferior laryngeals.

Upon the living subject the operation should be strictly aseptic, and where practicable should have been preceded by several days by a preliminary tracheotomy. The trachea may be occluded superiorly by a small rubber bag attached

to the smallest-sized soft catheter, introduced through the tracheal wound, above the cannula, and then inflated. The cannula may be temporarily removed during the introduction of the bag and its inflation.

Advantages alleged for this procedure:

1. Its rapidity, ease, and comparative safety to the patient.

2. The small size of the wound.

3. The preservation of the attachments of the thyro-hyoid ligament and the greater part of the membrane, and of the thyro-hyoid, sterno-thyroid, stylo-pharyngeus, and inferior constrictor muscles; leaving—

4. Important functional structures retained in their normal relations for deglutition; and leaving—

5. A firm, natural support for the adjustment of artificial substitutes for the larynx.

For these reasons it is submitted that this procedure should be preferred to complete laryngectomy whenever not precluded by extent of disease.

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